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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/026,171

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Agapios K. Agapiou

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EXAMINER

MCDONOUGH, JAMES E

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

12/21/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

univationlaw@univation.com

Office Action Summary	Application No. 10/026,171	Applicant(s) AGAPIOU ET AL.	
	Examiner JAMES E. MCDONOUGH	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-10,14-22 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-10,14-22 and 24-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/1/2009 and 6/30/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Original Rejections

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5-10, 14-15, 18-22 and 24-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uwai (USP 6,420,501) as cited in and for the reasons of record given in paragraph 5 of the Office action dated 11/14/2006 and the reasons below.

Regarding claims 1, 3, 6-10, 14, 18-22, 24-32, and 34-38.

Uwai teaches (table 1) that the metallocenes and activator can be combined at temperatures up to 100 C and for times up to 60 minutes.

With respect to the temperature of step (b) of 30-75 C. It is noted that Uwai teaches a temperature for this step of 100 C, although this temperature is 25 C higher, the claimed temperature would have been the result of routine experimentation by one of ordinary skill in the art in an effort to optimize the catalyst activity while reducing reactor fouling by taking into consideration the polymerization parameters (i.e. time, temperature, reactor type, pressure, etc.). It is further noted however that the addition of one component that is up to 125 C to another components that is up to 75 C, will result in a new composition with a temperature higher than 75 C, assuming equal heat capacities and equal volume solutions the resultant temperature would actually be 100 C.

With respect to the activity of the catalyst prepared by a certain method it is noted that this is only shown for some organometal compounds and not all (i.e. see examples 15 and 16 of the instant specification).

Regarding claim 5

The solubility of a catalyst in toluene is a property of the catalyst and as such is inseparable from the catalyst itself, and since the reference discloses catalyst that read on the instant invention, it would be expected to have these properties absent any evidence to the contrary.

Regarding claim 15

Uwai teaches drying the solid catalyst (column 17, lines 64-67).

Regarding claim 33

Although, Uwai does not teach the claimed drying temperature, Uwai does disclose drying the product, however, the claimed drying temperature would have been the result of routine experimentation by one of ordinary skill in the art in an effort to optimize the catalyst activity while reducing reactor fouling by taking into consideration the polymerization parameters (i.e. time, temperature, reactor type, pressure, etc.), absent any showing of unexpected results.

Claims 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Uwai (USP 6,420,501) as applied to claims 1, 3, 5-10, 14-15, 18-22 and 24-38 above, and further in view of Lee et al. (USP 5,367,037).

Although, Uwai is silent as to whether the catalyst is reslurried in mineral oil, Uwai does disclose/suggest the rest of the limitations of the claims, however, because Lee teaches that it is preferable to add the catalyst as either a solid or a mineral oil slurry, it would have been prima facie obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Uwai, by incorporating the catalyst as a mineral oil slurry, as suggested by Lee, with a reasonable expectation of success.

Response to Arguments

Applicants argue against the 103 rejection over Uwai.

Applicants argue that their method enable an identical catalyst made by their method to have an activity that is at least a 38.9 % greater, than the identical catalyst made without heating step (a) 75-125 C for 30 minutes to 3 hours, and step (b) at 30-75

C. This is not persuasive because applicants do not show this to be the case, and actually looking at examples 15 and 16 of the instant specification we can clearly see that with some organometal compounds this trend is reversed (i.e. see examples 15 and 16 of the instant specification. It is also noted by the examiner that the examples of the instant specification teach mixing then heating and not this claimed pre-heating (see examples 9-16 of the instant specification). Further the examples in the specification do not show superior results that are at least 38.9 % greater, that are also fully commensurate with the scope of the claimed invention, and it is noted that there are many factors controlling activity, including the specific catalyst (i.e. metallocene, activator and support) used, which is not claimed, as the claims read on an almost infinite amount of combinations of components to make a catalyst. Based on the above no criticality can be seen for the difference in temperature in step (b).

Applicants argue that the action fails to provide any indication wherein Uwai, suggest or discloses that the reaction temperature of the metallocene with the activator AND the temperature of the support upon combination of the catalyst-activator with the support is “result effective” subject to such “routine experimentation”. It is also noted that applicants admit that Uwai teaches the combination of catalyst and activator at 100 C, which reads on the claimed range and that the support is combined with this product, where the support is at 85-150 C. These arguments are not persuasive because the examiner has provided reasoning that one skilled in the art would have used at the time of the invention to find it obvious to optimize the temperature, as the claimed 30-75 C is only 10 C different than the references 85-150 C, and one skilled in the art would not

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expect much difference between adding the support at 85 C vs. adding the support 75 C, or that the reaction temperature of 75 C (claimed) vs. 100 C (reference) only 25 C difference, absent any evidence to the contrary, which applicants have failed to provide.

Applicants argue that they have discovered a way to greatly improve the activity of a catalyst by controlling a variable within a narrow window having an upper limit 25% lower than the lowest disclosed value disclosed in the art. This is not persuasive because applicants have failed to demonstrate that this method will result in a higher activity than an identical catalyst prepared with slightly higher temperatures. Further it is noted that 75 C (i.e. 348 K) is not 25 % lower of a temperature than 100 C (393 K).

Applicants argue that while examples 15 and 16 do not fall under the presently claimed invention, there are examples that show the unexpected results of the instant invention, and thus comport with U.S.C. 112. This is not persuasive because the examples only show criticality for the mixing temperature of the metallocene and the activator, and the reference reads on these temperatures, applicants have not shown criticality for the temperature of step (b) nor the temperature of the support before being added.

Applicants remaining arguments direct towards this rejection have been fully considered, but are not persuasive for the same reasons given above.

Applicants argue against the 103 rejection over Uwai in view of Lee.

These arguments have been fully considered but are not persuasive for the same reason given above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES E. MCDONOUGH whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

/James E McDonough/
Examiner, Art Unit 1793
12/15/2009